

## Abstract

5 A permanent magnet direct current motor 10 has a permanent magnet stator with at least one permanent magnet 14. The magnet 14 faces poles of an armature core 26 across a small air gap. A speed sensor 12 is located in the air gap for detecting rotation of the armature core. The speed sensor 12 is a single turn coil fixed to a surface of the magnet 14 facing the armature core. Terminals 38 of the coil are located on an axial end surface of the magnet and mate with resiliently deformable fingers or spring biased terminals 36 fixed to the motor end cap 20.

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Figure 1

10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100